ResearchGate

See discussions, stats, and author profiles for this publication at: https://www.researchgate.net/publication/321276852

Marching Forward, Marching in Circles: A History of Problems and Dilemmas in Teacher Preparation

Article *in* Journal of Teacher Education · November 2017

DOI: 10.1177/0022487117742904

CITATIONS
3

READS
605

1 author:

Jack Schneider
University of Massachusetts Lowell
32 PUBLICATIONS **216** CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:

Massachusetts Consortium for Innovative Education Assessment View project

All content following this page was uploaded by Jack Schneider on 16 January 2018.

The user has requested enhancement of the downloaded file.

Check for updates

Invited Manuscript

Journal of Teacher Education
1–11
© 2017 American Association of Colleges for Teacher Education
Reprints and permissions:
sagepub.com/journalsPermissions.nav
DOI: 10.1177/0022487117742904
journals.sagepub.com/home/jte
SAGE

Marching Forward, Marching in Circles: A History of Problems and Dilemmas in Teacher Preparation

Jack Schneider[1]

Abstract

This essay tracks the history of teacher preparation, from its origins in the early republic to the present. In so doing, it tells two stories. The first is a story about problems—a linear story in which problems are discovered, potential solutions are generated, and positive results are achieved. It moves from the past to the future and from the old to the new. The other story is about dilemmas. And because dilemmas cannot be solved, the passage of time leads back to the original point of departure. Solutions are tried and discarded, but as the past is forgotten, they eventually are embraced again. In telling these two stories, the essay proceeds chronologically, highlighting improvements in teacher preparation practice over time. That relatively linear chronology, however, is organized into four periods, which reveal not a march of progress, but an unmindful return to the once-maligned practices of the past.

Keywords

education reform, historical analysis, preservice teacher education

Fix the teachers and you will fix the schools—the sentiment is as common as it is old. In 2009, for instance, Barack Obama argued that "the single most important factor in [education] is the person in front of the classroom." He may as well have been finishing a sentence from a century and a half earlier, which argued that "improvements in the school organization, school hours, and apparatus, and text-books, are vain without good teachers" (Editorial Department, 1871, p. 54).

Over time, this belief has been channeled into various policy schemes. It has periodically manifested in plans to recruit a different class of person into teaching. It has driven attempts at better motivating teachers—through the use of incentives like merit pay or the threat of dismissal. And it has sparked recurring moves to "teacher-proof" the curriculum.

Perhaps, most consistently, however, the quest to build a better teacher—by now two centuries old—has been expressed through efforts to improve teacher preparation practices. Fix the training, in other words, and you will fix the teachers.

This essay tracks the history of teacher preparation, from its origins in the early republic to the present. And in so doing, it tells two stories.

The first of those is a story about problems—a linear story in which problems are discovered, potential solutions are generated, and positive results are achieved through steady effort. This story moves from the past to the future, as well as from the old to the new. It can be represented as a sloped line departing from an origin point, across both x and y axes in the first quadrant of a Cartesian plane. The area beneath the curve represents work. And the final position of the line represents a kind of progress.

The other story is one about dilemmas. Rather than being linear in nature, it is parabolic. Time passes along an x axis. And like the previous graph, the area beneath the curve represents work. But rather than sloping ever upward, the line eventually bends and returns back to the original y-coordinate. This is not to say that progress is made and then lost through regress. Rather, it is to say that no progress is possible. A handful of imperfect approaches are available, and once they have been cycled through, unsatisfied policymakers inattentively turn back to what their predecessors discarded.

In telling these two stories, this essay will proceed chronologically, highlighting improvements in teacher preparation practice over time. That relatively linear chronology, however, has been organized into four periods, and true to parabolic form, the last of those periods bears a striking resemblance to the first.

[1]College of the Holy Cross, Worcester, MA, USA

Corresponding Author:
Jack Schneider, Assistant Professor of Education, College of the Holy Cross, 1 College St., Worcester, MA 01610, USA.
Email: jschneid@holycross.edu

Problems, Dilemmas, and Context

Perhaps the simplest way to distinguish between a problem and a dilemma is to say that a problem can be solved, whereas a dilemma can only be managed.

As Larry Cuban (2001) defined it, problems are defined by gaps "between what *is* and what *ought to be*" (p. 4). Closing that gap requires creative thinking, the development of new approaches and tools, and the investment of resources.

A dilemma, by contrast, cannot be resolved because it demands that we make "undesirable choices between competing, highly prized values" (Cuban, 2001, p. 10). Insofar as they cannot be simultaneously or fully satisfied, dilemmas must be managed with inevitable discontent.

Teacher educators have faced myriad problems across time. And a great deal of progress has been made with regard to identifying and addressing these. In terms of issues such as content preparation, the organization of student teaching experiences, and the structuring of reflective practices, teacher education programs have unquestionably improved over time (Warren, 1989). Even though there is no uniformity across programs (National Research Council, 2010), effective practices have been adopted even by organizations that pride themselves on offering *alternative* approaches to teacher preparation (Schneider, 2014).

Yet, teacher preparation has also long been characterized by a number of knotty dilemmas. Before mapping out several core dilemmas inherent to teacher education, however, it is worth briefly discussing that context that gives rise to them.

Factor 1: Public Funding

The first of those contextual factors is the publicly funded nature of K-12 education. Being tax-supported rather than tuition-supported, public schools can count on relatively stable funding. But they face very real constraints on how much revenue can be raised. Taxpayers, who might have high ceilings with regard to expenditures on their own children, for instance, tend to have less tolerance for spending on other people's children (Stein, Hamm, & Freeman, 1983; Tedin, 1994). This built-in cost suppression translates directly into limits on teacher salary, which has a host of repercussions for teacher training.

Factor 2: Scale

The second contextual factor to consider is the scale of the enterprise. Today, 50 million students attend roughly 100,000 schools and are educated by more than 3.5 million teachers. This massive scale exacerbates the cost problem. But it also represents an important challenge in its own right. The need for an enormous quantity of teachers places significant limitations on the length and selectivity of teacher education programs, and presents a major organizational challenge.

Factor 3: The Equity Principle

The third contextual factor of note is the principle of equity. Although rarely achieved in practice, the *principle*, which is enshrined in founding documents, the law, and public consciousness, demands relatively equal opportunity for all children (Verba, 1985). Schools, then, can be different from each other, but only to an extent. Insofar as the teaching staff greatly influences the character and quality of a school, the demand for relative parity—which happens to be complicated severely by scale—is quite strong (Lortie, 1969). This demand, subsequently, exerts a powerful influence on the organization of teacher education.

Factor 4: The Importance of Education

A final factor worth noting is the perceived importance of education in American society, particularly with regard to getting ahead (Labaree, 1997). The idea that education leads to social mobility is certainly stronger today than it was 200 years ago; yet the system, from its origins, has been framed as a "great equalizer" (Cremin, 1957). Insofar as concern with educational quality translates into concern with teacher quality, this factor both raises the stakes associated with various dilemmas and ensures consistent policy churn.

Collectively, these contextual factors help give rise to at least three core dilemmas that constrain teacher preparation.

Dilemma 1: Length Versus Volume

Finding millions of teachers to staff hundreds of thousands of schools is an inherently challenging enterprise, but particularly so when costs are suppressed. The most immediate effect of cost suppression is that it keeps teacher salaries relatively low, thereby reducing the pool of qualified applicants.

But cost suppression also affects teacher preparation in that it limits the duration of training. Although they are in training, candidates pay both direct expenses and opportunity costs. The more their training extends these costs, the fewer candidates there will be.

Across time, there have been various efforts to address this issue. But there is no solution for it. Millions of qualified people cannot be convinced to spend multiple years preparing for professional roles when such work entails a modest salary and the low prestige of a mass occupation.

Dilemma 2: Specificity Versus Generality

Much of the best preparation for work happens on the job—highly particular and context-specific training that develops a fit between employee skills and work task (Becker, 1972; Rivera, 2012). This might be presumed to be particularly true in education, which is deeply shaped by relationships, and which represents a high level of complexity with regard to goals (Barth, 1990; Bryk & Schneider, 2002).

In education, however, the need to provide general training—prior to hiring—is quite powerful. The critical importance of education means that unprepared teachers cannot fairly be placed into schools; and the equity principle implies that unprepared teachers cannot be directed only to particular schools.[1] In addition, given the tax-supported nature of public schooling, schools cannot simply pay new recruits to sit on the sidelines while they learn the ropes.

Over time, reformers have consistently approached this dilemma as if it were a problem. Identifying a science of teaching, for instance—a pedagogical method that would work everywhere, regardless of context—has been a popular aim in various eras, including the present. Yet, such efforts have borne little fruit. More productive, it seems, have been efforts to manage the dilemma. Student teaching, for example, has become a prominent and universal feature of teacher preparation.

Dilemma 3: Flexibility Versus Security

The skills that good teachers possess cannot be adequately identified through professional credentials, at least not at the individual teacher level (Clotfelter, Ladd, & Vigdor, 2007; Kane, Rockoff, & Staiger, 2008). In a much smaller system, with much greater cost flexibility, it might be possible for a highly trained group of licensors to examine teacher practice directly. But the vast scale of the American context renders this nearly impossible.

Insofar as credentials do not adequately capture teacher quality, then, overreliance on them will keep qualified applicants out of classrooms. This seems to call for flexibility around professional qualifications and the design of teacher preparation programs. Yet, too much flexibility would lead to concerns about quality control. After all, stakeholders want a guarantee of minimum competency in a critically important enterprise.

The demand for both flexibility in identifying skilled candidates *and* the provision of accreditation-based security, then, plays out in tensions over the mark of a qualified teacher. But it also affects teacher preparation. It means that programs must do what they believe is necessary to provide candidates with requisite skills—no small task given the limits on time—while also adhering to a standardized and relatively bureaucratic program for state licensure.

Four Eras of Teacher Preparation

As with the division of any length of time into historical periods, partitioning the history of teacher preparation into distinct eras is an inexact science. Rather than being marked by sharply defined boundaries, these eras fade into and overlap with each other.

Yet, when viewed from a wide angle, each era is distinct. In each, different problems were identified and addressed, often with some degree of success. And in each, policy leaders approached dilemmas in different ways and with different priorities, often reacting to work done in previous eras.

In what follows, I identify four eras in the history of teacher preparation, each 60 years in duration.[2] Although all periodization is by definition subjective, this time span is not arbitrary. For, not only does that length of time encapsulate each of these distinct eras, but it also corresponds to the duration of an adult life. The ideas that shape particular periods, we might remember, do not live on the written page so much as they do in the minds of men and women.

Era 1: Teaching Unregulated (1800-1860)

Prior to the advent of the first common schools in the 1830s, students learned in a variety of different settings. They studied at home with siblings, in apprenticeships with craftspeople, in dame schools with neighbors, in small groups or individual sessions with tutors, in tuition-based private schools, and in free schools for paupers. In some communities, students might also have attended tax-supported public schools (Cremin, 1970; Kaestle, 1987; Katz, 1968).

During the first decades of the 19th century, no standard for a qualified teacher existed and entry into the profession was open, provided that a teacher could convince stakeholders that he or she possessed the requisite skills for the job. Consequently, parents, school leaders, and community leaders—each of whom exercised power in particular educational settings—had significant freedom to select a teacher with adequate skills for the job.

Given the absence of a standard, however, as well as the absence of formal routes into the profession, the definition of "adequate skills" tended to be quite basic. Generally, teachers were selected on minimal criteria such as perceived ability to maintain order, having completed a level of schooling above that which he or she aimed to teach was a significant bonus (Sedlak, 1989). An example interview (Sedlak, 1989) is illustrative:

> Chairman: How old are you?
> Candidate: I was eighteen years old the 27th day of last May.
> Chairman: Where did you last attend school?
> Candidate: At the Academy of S.
> Chairman: Do you think you can make our big youngsters mind?
> Candidate: Yes, I think I can.
> Chairman: Well, I am satisfied. I guess you will do for our school.

Without clear standards, hiring was extremely vulnerable to abuse. As Michael Sedlak (1989) has written, "in districts where patronage was rampant, teaching positions rarely were advertised in newspapers or on handbills, and many times were not even announced by word-of-mouth" (p. 260). And, as Ted Sizer observed, the absence of laws around licensure

and hiring led to "a system in which some mayor's half-drunk illiterate uncle was hired to teach twelfth-grade English" (Gatto, Jordan, & Goodlad, 2001, p. 61). Needless to say, this was not ideal.

What did teacher training look like during this period? For the most part, it did not exist. As Samuel R. Hall (1829), founder of Concord Academy, observed, many teachers had "received no instruction, except what they derived from common schools" (pp. 26-27). This was particularly true of teachers in rural schools, and it was truer the further one moved from the population centers of the east. In Western states, the vast majority of teachers received no training at all, with the exception of those who had attended workshop-style teacher "institutes" that lasted anywhere from a few days to several weeks (Fuller, 1982; Mattingly, 1975).

Yet, little else was available. And given the fact that each community selected its own standards, insistence upon formal training would have drastically reduced the number of available teachers. In Don Warren's (1985) words, "Why spend time and money in preparation when the job itself neither required nor rewarded the investment?" (p. 7). For some small communities, any training requirement would have been devastating—reducing their pool of potential teachers to zero.

Seeking to provide *some* training to future teachers, several institutions—mostly private academies like Zion Parnassus Academy near Salisbury, North Carolina, and Westtown School near Philadelphia—began to offer preprofessional courses (Regents of the University of the State of New York, 1840). Structurally, this made sense, as schools often hired their own graduates to teach. By providing teacher training courses in the "principles of teaching," schools could strengthen their own future workforce. And as an upside, training could be quite specific in nature—tailoring prospective teachers for work in a particular institution.

As common schools grew in number, however, the inadequacies of this approach, as well as of *no* approach to teacher preparation, were becoming clear. By 1860, seven million students were enrolled in tax-supported common schools—a scale unimaginable a generation earlier. Supported by the public purse, these schools also required public trust in a way that previous schools had not.

Earlier, schools had earned trust through direct service and face-to-face relationships. The emerging system, on the contrary, required some rudimentary bureaucracy—including teacher training and certification—to provide a guarantee of minimal quality and relative uniformity. And, as the educational system grew, it also became more central to people's lives, seemingly requiring a better class of teacher. As Missouri's state superintendent of instruction put it in an 1853 report,

> Whatever may have been formerly the opinion touching the dignity and importance of the teacher's office, and the necessary qualifications for it, it is now generally conceded that . . . a course of special professional culture is indispensable to due preparation. (Ewing, 1853, p. 148)

But, if training was going to be required, what would it look like? Who would pay for it? Where would it be conducted? How long would it last? What would be covered? And, perhaps most importantly, who would opt into it? For, as one school leader noted, "many of our teachers would regard with indifference" the notion of professional training (Ewing, 1853, p. 150). If alternatives continued to exist, most would likely choose the least costly option for entering a profession that offered poor financial remuneration.

By the dawn of the Civil War, various forms of teacher training had sprung up to meet the rising demand: Lancasterian training schools, urban high schools with "normal departments," teacher institutes, and even the first teachers colleges (Warren, 1985). Given the near-total absence of training prior to the 1800s, goals for teacher training by the end of this first period remained humble. As the official organ of the Ohio schools put it in 1866, teachers should have "a familiar acquaintance with the subject matter of the lesson" and should know "the method of conducting the recitation" (*Ohio Monthly*, pp. 186-187). As another observer of the period noted, a teacher "must know *how* to *teach*." Yet to be answered, of course, was where teachers would "learn these essential qualifications" (Wright, 1855, p. 148), or what the consequences of increased training requirements would be.

Era 2: Early Bureaucracy (1860-1920)

By the early 1860s, a formal program of teacher training had begun to emerge in state-sponsored "normal schools."[3] Although by no means required to find a teaching position, graduation from a normal school, which was roughly equivalent to a high school, was increasingly an attractive option that conferred professional status on teachers. That is not to suggest that the majority of teachers received training. The most straightforward path into teaching remained direct—bypassing professional training altogether. But as the national network of common schools grew, so did the emphasis on training through a recognized institution.

Policymakers recognized that they could not mandate a formal course of training for teachers. Had they done so, they would have dramatically limited the number of teachers available, as many teachers would not have made the investment in training—opting instead to pursue other lines of work. Even as late as 1886, observers were claiming that formal teacher training had "failed" as a policy because "there was not then much demand for teachers thus prepared" (Wickerham, 1886, p. 381). Schools had long operated without the security provided by credentialing, and many school leaders were doubtful of the highly generalized nature of most training programs.

Yet, policy elites were intent on building a true system of education—work that would require uniformity and standardization (Schneider & Hutt, 2014). In addition, they perceived a degree of public concern about teacher quality in tax-supported schools. Seeking to manage this dilemma, many began to mandate systems of exam-based licensure. By the end of the Civil War, most states required written examinations in reading, writing, spelling, grammar, geography, and arithmetic. They also issued different levels of certificates, valid for varying lengths of time, based on exam performance (Angus, 2001).

System-builders believed that graduation from a training program would more effectively guarantee teacher quality than would merely passing an exam. Consequently, they continued to invest in these institutions. By 1870, 39 normal schools were in operation. Two decades later, that figure had nearly tripled—to 103. In another 20 years, it nearly doubled again—to 180 (Ogren, 2005). Still, by the end of 19th century, normal schools were producing no more than one quarter of new teachers (Tyack, 1967). And the scale of the emerging system of public education was already too large by this period to mandate teacher training without producing a shortage (Brown, 1918). Furthermore, in a decentralized system, tighter mandates by particular states or districts would only direct more teachers to areas with lower training requirements.

Policy leaders sought to incentivize training by exempting graduates from certification exams. By the turn of the century, 28 states were certifying teachers on the basis of graduation from a normal school or university without further examination (Cook, 1921). This was a significant enticement, as was the fact that many normal schools were becoming teachers colleges—institutions capable of bestowing a college diploma. One serious consequence of the effort to move a critical mass of teachers into and through normal school programs, however, was that barriers to entry had to remain low. It had to be possible for nearly anyone to enter.

Admission standards of a normal school in Farmington, Massachusetts, in 1889-1890, are illustrative of the period:

> A candidate of admission must be at least 16 years old . . . She must bring from a former teacher, or, if that is not possible, from some other responsible person, a certificate of such intellectual and moral qualities as are essential to a teacher; she must pass a satisfactory examination in arithmetic, geography, history of the United States, and the English language . . . and must pledge herself to teach, after completing the course of study, in the public schools of Massachusetts for at least one year . . . (Catalog & Circular, 1889-1890, p. 14)

Many school and district leaders were proud of their professionally trained teachers. Still, it was clear that preservice training was hardly a guarantee of a teacher's quality. Even as momentum shifted in favor of professional education, many districts continued to take advantage of their "freedom to recruit and hire the teachers they believed were the most qualified or appropriate" (Sedlak, 1989, p. 265). The low prestige of a program that anyone could enter—a program designed to produce a sufficient number of teachers—would continue to be a problem.

Furthermore, exacerbating the challenge of increasing training requirements was the low pay associated with teaching. A 1873 letter to the Board of Trustees of the training school in San Jose, California, for instance, observed that

> the profession of teaching has, as yet, not become so permanent and remunerative that pupils will take the time, after having acquired sufficient knowledge to obtain certificates, to qualify themselves in methods of teaching, and a school doing only professional work would find itself without pupils. (Allen, 1873, p. 51)

Even half a century later, it remained true that the salaries of stenographers, typewriters, and clerks were 50% to 100% larger than those of teachers (Exodus of Teachers, 1921).

Dilemmas aside, teacher training programs faced a number of basic problems at the beginning of this period that they had begun to solve by the end of it. For one, would-be teachers traditionally had very little contact with actual students during their training programs. As one early observer noted,

> Our Normal Schools suffer much by not having the charge of *Model Schools*. What a carpenter's shop would be, filled with the best tools, but destitute of boards and timber . . . that, a Normal School, without a class of children to be taught by the pupils, *is*. (Ansorge, 1860, p. 213)

By the turn of the century, practice teaching was standard, if brief—generally a few weeks long.

Another core problem addressed by teacher preparation programs was the curriculum. Many early normal school graduates, for instance, received no training in lesson planning—an obvious programmatic flaw (Maine Journal of Education, 1873). In part, this was due to the fact that many colleges and universities had only one faculty member teaching preprofessional courses for teachers—the chair of pedagogy. And, in part, it was because the work of training teachers was still relatively new. In any case, it was a problem soon addressed and eventually solved.

Era 3: Late Bureaucracy (1920-1980)

By the 1920s, more or less all teachers were required to earn a license. And for the most part, licenses were granted by the state upon completion of certified program. Alternatives still existed—exams, for instance, remained an option in many states. But they were rapidly being phased out (Frazier, 1935).

Training requirements also steadily grew across the first half of this period. In some ways, this was a reaction to earlier

problems—driven by policymakers interested in building a national system through uniform standards (Hutson, 1965). But it was only possible because of significant increases in teacher pay (Sedlak, 1989). Consequently, by the late 1930s, 87% of high schoolteachers, as well as a smaller, but still significant percentage of elementary schoolteachers, had attended at least 4 years of college (Frazier, 1935).

Still, growth should not be mistaken for improvement. In 1930, as Donald Warren (1985) has written, "creating and strengthening the institutional framework of teacher education superseded concern about its quality," with reformers perceiving "structural growth as qualitative improvement" (p. 10). In other words, their devotion to "working out standards and uniform plans for administering their work" was a priority in and of itself (Morgan, 1926).

Prior to 1927, no standards for the accreditation of teacher education existed (Lindsey, 1961). By the late 1940s, however, the American Association of Teachers Colleges merged with two other accrediting organizations to form the American Association of Colleges for Teacher Education (AACTE). And in 1954, the AACTE turned over its accreditation function to the recently formed National Council for the Accreditation of Teacher Education (NCATE). In addition to coordinating programs, NCATE articulated an explicit mission to raise "the level of the teaching profession through accreditation of teacher education programs by cooperative action" (Lessenger, 1954, p. 28). A unified body, thus, began overseeing an increasingly uniform process.

The rise of college- and university-based training, and the link between graduation from these programs with licensure, allowed teacher educators to expand requirements. Teachers could no longer opt out of preservice training, nor could programs undercut each other in a race to the bottom. Consequently, teacher preparation programs added features like practice teaching—a component long called for and which became increasingly common (Frazier, 1935; Hutson, 1965). College- and university-based programs, at the urging of state policymakers, also began developing subject-specific pathways. The first subject-specific certification was in Pennsylvania in 1922. By 1930, 16 states required prospective teachers to major or minor in the subject they wished to teach (Frazier, 1935; Hutson, 1965).

Programs, of course, could not extend training indefinitely, and continued to face very real constraints with regard to coursework and practice teaching requirements. Still, as some level of standardization emerged—by the early 1950s, the vast majority of states required 4 years of college for any teaching certificate, and many programs had adopted similar models (Armstrong & Stinnett, 1953; Maul, 1956)—leaders in teacher education were able to solve several long-standing problems. In addition to improving student teaching and addressing the challenge of content-specific pedagogy, teacher educators also began to expand their programs to address the importance of student language and culture, as well as the emerging science of learning (Gardner, 1985).

Naturally, some found this shift toward a single model—with its trade-offs all the more clear because programs were increasingly uniform—disturbing. Critics argued that teacher education programs had become too general and too rigid, having shifted too far from the locally specific and highly flexible models that policy leaders had worked to remedy in previous eras. Mortimer Smith (1949), for instance, lamented the emergence "a cohesive body of believers with a clearly formulated set of dogmas and doctrines" (p. 12). A decade later, James Koerner (1963) lambasted the "industry" of teacher education.

Defenders, of course, pointed out that many of the weaknesses in teacher education were due to structural limitations and the necessity of making trade-offs. In a review of Koerner's *The Miseducation of American Teachers*, for instance, Edgar Friedenberg (1963) wrote that critics were ignoring historical context in their denouncements of teacher education. But, critics saw trade-offs as bad policy, rather than as a particular approach to managing dilemmas. They saw teacher licensure as rigid and formulaic, bureaucratic, disrespectful of local control, and overly general. They were critical of higher barriers to entry, which limited the pool of teachers, and they were simultaneously critical that barriers were not high enough—degrees in education, for instance, could be granted without a prospective teacher having done significant coursework in the subject area to be taught.

Some policy leaders proposed alternatives. The federal government, for instance, sponsored both the Master of Arts in Teaching (MAT) program and the Teacher Corps, each of which was designed to increase flexibility, introduce more entryways, and provide more specific skills (Schneider, 2011). There was also increasing support for attempting to measure teacher skill rather than certifying the completers of accredited programs. The federal government, for instance, invested more than US$12 million on competency-based teacher education projects between August 1967 and January 1973 (Hamilton, 1973). And there was talk of a National Teacher Examination in late 1960s and early1970s.

To others, these kinds of proposals looked too much like tinkering. In their eyes, the system was broken, and there was an obvious fix: tearing it down.

Era 4: Resurgent Deregulation (1980-Present)

During the last decades of the 20th century, with bureaucratic teacher education systems seemingly triumphant, the parabola began to bend in the other direction. Although system-builders had achieved everything they wanted, their system was clearly flawed, and critics believed they could do better.

Many, certainly, continued to push for incremental change—new ways of managing old dilemmas. Some believed that the problem was not enough training. Two groups, for example—the Carnegie Task Force on Teaching and the Holmes Group—released reports in 1986 calling for the elimination of undergraduate teacher education, requiring of

subject matter majors, and the use of master's degrees as the "new entry level credential" (Labaree, 1998, pp. 129-130). Others pushed for a return to testing. By the late 1980s, roughly one third of districts required a state test of basic skills and roughly a quarter of them required prospective teachers to pass a subject matter test. By the mid-1990s, those figures would rise to roughly one half and two fifths (U.S. Department of Education, 1987, 1999).

But a new corps of reformers wanted to rip apart the bureaucracy entirely. They favored multiple pathways, flexibility, and locally based decision making. These ostensibly new solutions, however, often sounded quite a bit like teacher preparation in the early republic (Hanushek, 2007; Weiner, 2007).

To be clear, traditional teacher education, through college- and university-based training programs, has continued to be dominant during this last period. Such programs still possess a market share of roughly 75% (U.S. Department of Education, 2013). But their grip has eroded dramatically, and deregulation-minded policymakers continue to push for change (Walsh & Hale, 2004; Zeichner, 2006).

Perhaps the clearest distillation of this reform vision of the late 20th and early 21st century is Teach For America (TFA)—an ostensibly "innovative" (Kopp, 2010) alternative to college- and university-based teacher education. As John Chubb (2012) put it, because of TFA, "reformers are asking if teacher licensing is necessary at all."

TFA recruits are an academic elite—graduates of the nation's most prestigious colleges and universities, admitted through a highly selective process (Schneider, 2011). And they receive only the bare minimum of generalized training—through TFA's 5-week "summer institute" (Schneider, 2014)—before doing the rest of their learning on the job in a site-specific context. Not surprisingly, critics have been quick to point out any limitations of this model, raising questions about the degree to which TFA trains would-be teachers as well as colleges and departments of education (e.g., Darling-Hammond, Holtzman, Gatlin, & Vasquez Heilig, 2005).

But even if it were assumed that TFA corps members are as well prepared as traditionally trained teachers, there would still be questions about the degree to which TFA has actually "solved" any of the traditional dilemmas associated with training teachers (Donaldson & Johnson, 2011; Labaree, 2010).

Consider, for instance, the dilemma of length versus volume. Part of TFA's theory of change is that the organization can shortcut the training process by selecting people who already possess many of the characteristics of effective teachers, obviating the need to teach those characteristics. For this to succeed in any sense, they need a large pool of applicants, which they ensure by framing the organization as one that opens doors to future careers outside the classroom (Schneider, 2011). To whatever degree this actually works, however, we must remember that TFA, for all its press, produces a miniscule number of teachers—less than 5% annually. In addition, the program is quite expensive—US$51,000, even when offset by philanthropic giving (Cohen, 2015; Heilig & Jez, 2010). Thus, at anything resembling scale, a program like TFA would simply not work.

Another popular challenge to traditional college- and university-based teacher training is embodied in texts like Doug Lemov's *Teach Like a Champion* and preservice programs like those offered by the Relay Graduate School of Education—a growing alternative that each year trains roughly 1,500 teachers and principals. The idea embodied in each is that great teachers employ particular skills that can be learned through practice (Friedrich, 2014). And the implication is that the specificity versus generality dilemma can be resolved through an emphasis on teaching techniques that will work everywhere, regardless of context (Zeichner & Bier, 2012).

The idea is popular. Yet, the dilemma has not been resolved through the identification of one-size-fits-all techniques that help teachers survive their first days in the classroom. Early classroom survival, of course, is certainly nothing to scoff at. But the trade-off implied by such "skills-based" programs is that children will be treated in a manner that, whatever the technique's outward effectiveness with regard to concerns like classroom management, disregards individuality (Sawchuk, 2013). It may be possible, for example, to silence students by snapping or flashing the lights, but it is hardly the only technique for doing so, and it is unlikely the best (Goodman, 2013). Thus, programs like Relay's have not resolved the dilemma. Instead, they have managed it by trading one kind of general approach—one emphasizing things like child development, cognition, and culture—for another, emphasizing tricks and shortcuts.

A third example of a popular teacher preparation "solution" in this era is the teacher residency. Although less polarizing than TFA or the Relay Graduate School of Education, teacher residencies—of which there are roughly two dozen nationwide—are nonetheless a manifestation of the same deregulatory impulse (Zeichner & Bier, 2012).

As with TFA and Relay, residency programs seek to resolve the specificity versus generality problem. Working to ensure that "every teacher candidate is prepared for the realities of the classroom they encounter on their first day" (Coffman & Patterson, 2014), residencies recruit candidates for a yearlong apprenticeship to master educators. Programs have the power to decide how to individualize the model for local context. And by placing would-be teachers in context-rich classrooms, while providing them with graduate coursework in the evenings, they come quite close to having their cake and eating it, too.

Like TFA, residencies also seek to resolve the flexibility versus security dilemma by using brand attributes to instill general confidence, while allowing local control of particular sites. The residency model also strikes a unique balance with regard to the length versus volume dilemma. By eliminating direct costs and reducing opportunity costs through a living stipend, residency models are able to lure candidates into a

training program that would otherwise attract only a dedicated few (Klein, Taylor, Onore, Strom, & Abrams, 2013).

Still, fundamental constraints like cost and scale mean that although dilemmas appear to have been neatly dealt with, they have merely been managed through telescoping. At scale, and with the cost constraints imposed by taxpayer funding, the residency model would have to be dramatically altered. It would have to be shorter or smaller, less consistent, or more rigid (Klein et al., 2013).

All the while, of course, teacher preparation programs have been working to solve real problems. They have, for instance, developed reflection models, mentoring structures, cohorts, and support networks for young teachers (Darling-Hammond, 2010; Imig & Switzer, 1996). They have begun to find a balance between content preparation and pedagogical preparation, developing the knowledge base on effective classroom instruction (Hill, Ball, & Schilling, 2008; Imig & Switzer, 1996; Shulman, 1987). They have created stronger clinical experiences (Darling-Hammond, 2010; McIntyre, Byrd, & Foxx, 1996). And teacher education programs have become more coherent across their multiple dimensions (Howey, 1996). Many of these problems, if not completely solved, have certainly been minimized. Not surprisingly, a representative survey of new teachers indicated that they felt well or very well prepared for the classroom (Eduventures, 2009).

Problems do remain. Programs still struggle to find good classroom placements and cooperating teachers for all of their licensure candidates (Bullough et al., 2002; Zeichner, 2005). The horizontal staffing pattern used in college- and university-based programs—with faculty members focusing on discrete, and often fragmented, pieces of the curriculum without connection to the others—has clear weaknesses (Zeichner & Conklin, 2008). And novices still find that too much of their coursework is theoretical rather than practical (Darling-Hammond, 2012).

On the whole, however, the linear path of teacher training has been one edging ever upwards—era by era, year by year. Teacher education today is superior to that offered during any previous period, despite the fact that criticism has never been fiercer.

Such criticism is rooted, at least to some significant degree, in historical amnesia. Yes, there are aspects of teacher training that are not discernibly better today. Yes, some of the shortcomings of traditional teacher preparation programs—trade-offs necessitated, at least in the abstract, by unresolvable dilemmas—are easy to lampoon. And yes, many dilemmas have been managed imperfectly by those with particular agendas. Some of the deficiencies in teacher preparation may even be, as critics assert, the result of a status-quo-loving "establishment" protecting its own interests. But when taking the long view, it is hard to support the idea that teacher preparation has failed. And it is equally hard to support policy propositions that, in some earlier form, came with an equal number of shortcomings and trade-offs.

In a world of limited solutions, it should come as no particular surprise that reform-minded policy leaders would begin recycling ideas—conjuring proposals not entirely unlike those jettisoned by previous generations (e.g., Warren, 1985). But theirs is not an effort to reclaim the past, which appears wholly forgotten. Instead, their reuse of old ideas seems accidental, as reformers take a stand against the present and all its imperfections. When all of the methods for managing a dilemma are imperfect, those at the greatest distance may seem the least offensive. The arc of the parabola bends back toward the *x* axis, toward the past.

Conclusion

Although impossible, an experiment in which an average novice teacher from 1817 was pitted against an average new teacher today would undoubtedly favor the latter. In terms of what new teachers know about young people, the process of learning, the development of lessons, the practice of teaching a particular discipline, ways of engaging different kinds of students, methods for monitoring one's professional growth, and much else, problems in the field of teacher preparation have been addressed with a great deal of success. As Linda Darling-Hammond (2010) put it,

> Many schools of education undertook successful transformations . . . strengthening coursework around critical areas like student learning and development, assessment, subject matter pedagogy . . . and connecting this coursework directly to practice in much more extensive practicum settings. (p 36)

Perhaps not surprisingly, research suggests that graduates of college- and university-based teacher education programs feel better prepared than novices of the past, are rated as more effective by supervisors, and appear to add more to student learning (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2006; Darling-Hammond & Bransford, 2005).

Yet, despite tremendous strides forward, it remains "an accepted truth," according to Kate Walsh of the National Center for Teacher Quality, "that the field is broken" (Kronholz, 2012, p. 3).

If we learn nothing else from the history of teacher preparation, it is essential to recognize the difference between problems and dilemmas. Teacher preparation remains imperfect, certainly. And, given the contextual constraints facing the field, it will never be free of flaws. But it would be hard to say, when looking at the long arc of history, that something along the way stopped working. Beyond a mere academic distinction, this is a matter of significant importance because the stories we tell about the past shape the ideas we have about the future, and they shape the context in which we put those ideas to work. If the dominant narrative is that teacher education is a failed enterprise, we invite a very different approach to policy making than if we recognize its true history.

Distinguishing between problems and dilemmas might also have another effect on the way we approach the question of teacher preparation: focusing our attention on solving the problems that remain. Dilemmas aside, much work does remain to be done. And though it may often look like tinkering, projects designed to fix what can be fixed are absolutely worth our time and effort. Tilting at windmills may make for high drama. But real progress, ultimately, is made simply by putting one foot in front of the other.

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author received no financial support for the research, authorship, and/or publication of this article.

Notes

1. Here, we have a seeming contradiction. After all, underprepared teachers are consistently directed at low-income and minority students. The point here, however, is not that such things *cannot* happen. Rather, the point is that such a strategy is unsustainable and will remain under attack by some constituency as long as it is in use.
2. That is, with the exception of the final period, which has not yet come to a close.
3. The phrase "normal school" is a translation of the French école normale, which sought to establish teaching standards through model instruction. The first American normal school was founded in Lexington, Massachusetts, in 1839, 45 years after its first French counterpart.

References

Allen, C. H. (1873). Letter. In R. Royce (Eds.), *Historical sketch of the state normal school in San Jose, California*. Sacramento, CA: J.D. Young.

Angus, D. L. (2001). *Professionalism and the public good: A brief history of teacher certification*. Washington, DC: Thomas B. Fordham Foundation.

Ansorge, C. (1860). The teacher of Prussia and the teacher of America. *The Massachusetts Teacher*, *13*(1), 209-224.

Armstrong, E. W., & Stinnett, T. M. (1953). *A manual on certification requirements for school personnel in the United States*. Washington, DC: The National Education Association.

Barth, R. S. (1990). *Improving schools from within: Teachers, parents, and principals can make the difference*. San Francisco, CA: Jossey-Bass.

Becker, H. S. (1972). A school is a lousy place to learn anything in. *American Behavioral Scientist*, *16*(1), 85-105.

Boyd, D., Grossman, P., Lankford, H., Loeb, S., & Wyckoff, J. (2006). How changes in entry requirements alter the teacher workforce and affect student achievement. *Education Finance and Policy*, *1*(2), 176-216.

Brown, J. C. (1918). State normal schools and the war. *School and Society*, *7*, 694-699.

Bryk, A., & Schneider, B. (2002). *Trust in schools: A core resource for improvement*. New York, NY: Russell Sage Foundation.

Bullough, R. V., Young, J., Erickson, L., Birrell, J. R., Clark, D. C., Egan, M. W., . . . Smith, G. (2002). Rethinking field experience partnership teaching versus single-placement teaching. *Journal of Teacher Education*, *53*(1), 68-80.

Catalog and Circular. (1889-1890). (1890). Farmington, MA: State Normal School.

Chubb, J. (2012). *The best teachers in the world*. Stanford, CA: Hoover Press.

Clotfelter, C. T., Ladd, H. F., & Vigdor, J. L. (2007). Teacher credentials and student achievement: Longitudinal analysis with student fixed effects. *Economics of Education Review*, *26*(6), 673-682.

Coffman, A. N., & Patterson, R. (2014). *Teacher residencies: Redefining preparation through partnerships*. National Education Association. Retrieved from https://www.nea.org/assets/docs/Teacher-Residencies-2014.pdf

Cohen, R. M. (2015, January 5). The true cost of teach for America's impact on urban schools. *The American Prospect*. Retrieved from http://prospect.org/article/true-cost-teach-americas-impact-urban-schools

Cook, K. M. (1921). *State laws and regulations governing teachers' certificates* (U.S. Bureau of Education, Bulletin, 1921, No. 22). Washington, DC: Government Printing Office.

Cremin, L. A. (1957). *The republic and the school: Horace Mann on the education of free men*. New York, NY: Teachers College Press.

Cremin, L. A. (1970). *American education: The colonial experience, 1607-1783* (Vol. 2). New York, NY: Harper & Row.

Cuban, L. (2001). *How can I fix it? Finding solutions and managing dilemmas: An educator's road map*. New York, NY: Teachers College Press.

Darling-Hammond, L. (2010). Teacher education and the American future. *Journal of Teacher Education*, *61*(1-2), 35-47.

Darling-Hammond, L. (2012). *Powerful teacher education: Lessons from exemplary programs*. Hoboken, NJ: John Wiley.

Darling-Hammond, L., & Bransford, J. (Eds.). (2005). *Preparing teachers for a changing world: What teachers should learn and be able to do*. San Francisco, CA: Jossey-Bass.

Darling-Hammond, L., Holtzman, D. J., Gatlin, S. J., & Vasquez Heilig, J. (2005). Does teacher preparation matter? Evidence about teacher certification, teach for America, and teacher effectiveness. *Education Policy Analysis Archives/Archivos Analíticos De Políticas Educativas*, *13*.

Donaldson, M. L., & Johnson, S. M. (2011). Teach for America teachers: How long do they teach? Why do they leave? *Phi Delta Kappan*, *93*(2), 47-51.

Editorial Department. (1871). Chester county. *Pennsylvania School Journal*, *20*(1), 54.

Eduventures. (2009). *Educator preparation: Strengths and areas for improvement in preparation programs* (Catalog No. 10SOECR0709). Boston, MA: Author.

Ewing, E. B. (1853). Report of the superintendent of common schools. *The Teacher and Western Educational Magazine*, *1*(1), 141-156.

The Exodus of Teachers. (1921). School and Society, 13, 97-99.

Frazier, B. W. (1935). History of the professional education of teachers in the United States. In B. W. Frazier, G. L. Betts, W. J. Greenleaf, D. Waples, N. H. Dearborn, M. Carney, & T. Alexander (Eds.), *National survey of the education of teachers* (Vol. 5). Washington, DC: U.S. Government Printing Office.

Friedenberg, E. Z. (1963, September 1). The miseducation of American teachers, by James D. Koerner. *Commentary Magazine*.

Friedrich, D. (2014). "We brought it upon ourselves": University-based teacher education and the emergence of boot-camp-style routes to teacher certification. *Education Policy Analysis Archives/Archivos Analíticos De Políticas Educativas*, *21*. Retrieved from http://dx.doi.org/10.14507/epaa.v22n2.2014

Fuller, W. E. (1982). *The old country school*. Chicago, IL: The University of Chicago Press.

Gardner, H. (1985). *The mind's new science: A history of the cognitive revolution*. New York, NY: Basic Books.

Gatto, J. T., Jordan, K. K., & Goodlad, J. (2001, September). School on a hill. *Harper's Magazine*, pp. 52, 60.

Goodman, J. F. (2013). Charter management organizations and the regulated environment: Is it worth the price? *Educational Researcher*, *42*(2), 89-96.

Hall, S. R. (1829). *Lectures on school-keeping*. Boston, MA: Richardson, Lord, & Hoi.

Hamilton, P. O. (1973). *Competency-based teacher education*. Menlo Park, CA: Stanford Research Institute.

Hanushek, E. A. (2007). The single salary schedule and other issues of teacher pay. *Peabody Journal of Education*, *82*(4), 574-586.

Heilig, J. V., & Jez, S. J. (2010). *Teach for America: A review of the evidence*. Boulder, CO: National Education Policy Center.

Hill, H. C., Ball, D. L., & Schilling, S. G. (2008). Unpacking pedagogical content knowledge: Conceptualizing and measuring teachers' topic-specific knowledge of students. *Journal for Research in Mathematics Education*, *39*, 372-400.

Howey, K. (1996). Designing coherent and effective teacher education programs. In J. Sikula (Ed.), *Handbook of research on teacher education* (2nd ed., pp. 143-170). New York: Simon & Schuster Macmillan.

Hutson, P. W. (1965). Comments on teacher education. *Education*, *85*(7), 413-420.

Imig, D. G., & Switzer, T. J. (1996). Changing teacher education programs: Restructuring collegiate-based teacher education. In J. Sikula (Ed.), *Handbook of research on teacher education* (2nd ed., pp. 213-225). New York: Simon & Schuster Macmillan.

Kaestle, C. (1987). *Pillars of the republic: Common schools and American society, 1780-1860*. New York, NY: Hill & Wang.

Kane, T. J., Rockoff, J. E., & Staiger, D. O. (2008). What does certification tell us about teacher effectiveness? Evidence from New York City. *Economics of Education Review*, *27*(6), 615-631.

Katz, M. B. (1968). *The irony of early school reform: Educational innovation in mid-nineteenth century Massachusetts*. New York, NY: Teachers College Press.

Klein, E. J., Taylor, M., Onore, C., Strom, K., & Abrams, L. (2013). Finding a third space in teacher education: Creating an urban teacher residency. *Teaching Education*, *24*(1), 27-57.

Koerner, J. D. (1963). *The miseducation of American teachers*. New York, NY: Houghton Mifflin.

Kopp, W. (2010, April 3). Eight questions for Wendy Kopp. *The Economist*. Retrieved from https://www.economist.com/blogs/democracyinamerica/2010/04/wendy_kopp_interview

Kronholz, J. (2012). A new type of ed school: Linking candidate success to student success. *Education Next*, *12*(4), 2-8.

Labaree, D. F. (1997). Public goods, private goods: The American struggle over educational goals. *American Educational Research Journal*, *34*(1), 39-81.

Labaree, D. F. (1998). *How to succeed in school without really learning*. New Haven, CT: Yale University Press.

Labaree, D. F. (2010). Teach for America and teacher ed: Heads they win, tails we lose. *Journal of Teacher Education*, *61*(1-2), 48-55.

Lessenger, W. E. (1954). *Yearbook for the American Association of Colleges for Teacher Education*. Onenota, NY: American Association of Colleges for Teacher Education.

Lindsey, M. (Ed.). (1961). *New horizons for the teaching profession*. Washington, DC: National Commission on Teacher Education and Professional Standards, National Education Association.

Lortie, D. C. (1969). The balance of control and autonomy in elementary teaching. In A. Etzioni (Ed.), *The semi-professions and their organization: Teachers, nurses, social workers* (pp. 1-53). New York, NY: The Free Press.

Maine Journal of Education. (1873).The teacher's preparation for his work. *The California Teacher*, *11*(1), 18-20.

Mattingly, P. (1975). *The classless profession: American schoolmen in the nineteenth century*. New York: New York University Press.

Maul, R. C. (1956). The 1956 teacher supply and demand report. *Journal of Teacher Education*, *7*, 33-79.

McIntyre, D. J., Byrd, D. M., & Foxx, S. M. (1996). Field and laboratory experiences. In J. Sikula (Ed.), *Handbook of research on teacher education* (2nd ed., pp. 171-193). New York: Simon & Schuster Macmillan.

Morgan, W. P. (1926). Foreword. In *The American association of teachers colleges year book*.

National Research Council. (2010). *Preparing teachers: Building evidence for sound policy*. Washington, DC: National Academies Press.

Obama, B. (2009, July 24). *Remarks by the president at the department of education* (Press release). Washington, DC: Office of the Press Secretary. Retrieved from https://obamawhitehouse.archives.gov/the-press-office/remarks-president-department-education

Ogren, C. (2005). *The American state normal school: "An instrument of great good."* New York, NY: Palgrave Macmillan.

Regents of the University of the State of New York. (1840). *Annual report of the Regents*. Albany: University of the State of New York Press.

Rivera, L. A. (2012). Hiring as cultural matching: The case of elite professional service firms. *American Sociological Review*, *77*(6), 999-1022.

Sawchuk, S. (2013). Teacher-prep programs zero in on effective "practice." *Education Week*, *32*(26), 20-12.

Schneider, J. (2011). *Excellence for all: How a new breed of reformers is transforming America's public schools*. Nashville, TN: Vanderbilt University Press.

Schneider, J. (2014). Rhetoric and practice in pre-service teacher education: The case of teach For America. *Journal of Education Policy*, *29*(4), 425-442.

Schneider, J., & Hutt, E. (2014). Making the grade: A history of the A-F marking scheme. *Journal of Curriculum Studies*, *46*(2), 201-224.

Sedlak, M. W. (1989). Let us go and buy a schoolmaster. In D. Warren (Ed.), *American teachers: Histories of a profession at work*, 257-290. New York, NY: Palgrave Macmillan.

Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, *57*, 1-23.

Smith, M. (1949). *And madly teach*. New York, NY: Henry Regnery.

Stein, R. M., Hamm, K. E., & Freeman, P. K. (1983). An analysis of support for tax limitation referenda. *Public Choice*, *40*(2), 187-194.

Tedin, K. L. (1994). Self-interest, symbolic values, and the financial equalization of the public schools. *The Journal of Politics*, *56*(03), 628-649.

Tyack, D. B. (Ed.). (1967). *Turning points in American educational history*. Waltham, MA: Blaisdell.

U.S. Department of Education. (1987). *What's happening in teacher testing? An analysis of state teacher testing practices*. Washington, DC: Government Printing Office.

U.S. Department of Education. (1999). *The condition of education, 1999*. Washington, DC: Government Printing Office.

U.S. Department of Education. (2013). *Preparing and credentialing the nation's teachers: The secretary's ninth report on teacher quality*. Washington, DC: Government Printing Office.

Verba, S. (1985). *Equality in America: The view from the top*. Cambridge, MA: Harvard University Press.

Walsh, K., & Hale, C. (2004). *Increasing the odds: How good policies can yield better teachers*. Washington, DC: National Council on Teacher Quality.

Warren, D. (1985). Learning from experience: History and teacher education. *Educational Researcher*, *14*(10), 5-12.

Warren, D. (Ed.). (1989). *American teachers: Histories of a profession at work*. New York, NY: Palgrave Macmillan.

Weiner, L. (2007). A lethal threat to U.S. teacher education. *Journal of Teacher Education*, *58*, 274-286.

Wickerham, J. (1886). *A history of education in Pennsylvania*. Lancaster, PA: Inquirer.

Wright, S. (1855). State normal school. *The Illinois Teacher*, *1*.

Zeichner, H. G., & Conklin, H. G. (2008). Teacher education programs as sites for teacher preparation. In M. Cochran-Smith, S. Feiman-Nemser, D. J. McIntyre, & K. E. Demers (Eds.), *Handbook of research on teacher education: Enduring questions in changing contexts* (3rd ed., pp. 269-289). New York, NY: Routledge.

Zeichner, K. (2005). Becoming a teacher educator: A personal perspective. *Teaching and Teacher Education*, *21*(2), 117-124.

Zeichner, K. (2006). Reflections of a university-based teacher educator on the future of college- and university-based teacher education. *Journal of Teacher Education*, *57*(3), 326-340.

Zeichner, K., & Bier, M. (2012). The turn toward practice and clinical experience in U.S. teacher education. *Beiträge Zur Lehrerbildung*, *30*(2), 153-170.

Author Biography

Jack Schneider is an Assistant Professor of Education at the College of the Holy Cross and Director of Research for the Massachusetts Consortium for Innovative Education Assessment. His latest book is Beyond Test Scores: A Better Way to Measure School Quality (Harvard University Press, 2017).

View publication stats